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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,082	08/16/2000	Kazuhito Ohashi	35.C14706	3066

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EXAMINER	
AGGARWAL, YOGESH K	

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/639,082	OHASHI, KAZUHITO	
	Examiner	Art Unit	
	Yogesh K. Aggarwal	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,9,30,33 and 37-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6,30,33,37-39,41,43 and 44* is/are rejected.

7)☒ Claim(s) *5,9,40 and 42* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/16/2005 has been entered.

Response to Arguments

2. Applicant's arguments filed 05/16/2005 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 112

3. Claims 1, 30, 33, 37, 43, 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The newly added limitation "wherein each of the areas includes a plurality of effective pixels and a plurality of non-image pixels" is not consistent with the Applicants' specification. For e.g. each of the areas contain only one pixel. Fig. 10 discloses the total number of pixels wherein one pixel corresponds to each area and therefore plural pixels belong to all the areas combined together.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 4, 6, 30, 33, 37-39, 41, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nabeshima et al. (US Patent # 6,330,083) in view of Kawai (US Patent # 6,034,789).

[Claim 1]

Nabeshima teaches an image input apparatus (figure 1) comprising a photoelectric conversion unit (6) adapted to acquire image information of an object from a plurality of divided areas (figure 6a, element 51) and to output signals from each of a plurality of output units (52 and 53) corresponding to respective ones of the areas (col. 7 lines 1-11). The claim is broadly read as each of the areas including an effective pixel portion to be the signal level and a non-image pixel portion to be the black level and therefore all the areas will have plurality of effective pixels and a plurality of non-image pixels (col. 7 lines 43-48). Nabeshima also teaches a correcting unit (28) adapted to correct offset components contained in the signals output from each of the output units during a period of acquiring the image information (col. 11 lines 6-14, the offset components are corrected during a read operation which occurs when the image information is being acquired).

Nabeshima fails to teach explicitly that the offset components are corrected in accordance with a first signal output from the effective pixel portion during a period other than the image information acquiring, a second signal output from the non-image pixel portion during the period other than the image information acquiring and a third signal output from the non-image pixel portion during the period of acquiring image information.

However Kawai teaches a control unit 10 (figure 1) used for offset adjustment for an image reading circuit as shown in figure 4a and 4b (col. 6 lines 17-20). The lamp is turned OFF during step S103 (Col. 6 lines 30-33). Then in step S104, the image signal A (which is a image signal is read, col. 5 lines 2-4, col. 6 lines 35-38) and therefore reads on a first signal output from the effective pixel portion during a period other than the image information acquiring. In step 105, the mean black output sample is readout (col. 6 lines 38-40) and therefore reads on a second signal output from the non-image pixel portion during the period other than the image information acquiring. After the offset adjustment is done based upon these two signals, the control unit 10 performs a gain adjustment in step S115 that is explained in detail in figure 5a and 5b (col. 8 lines 20-27). The control unit turns on the lamp, which has been off in step S1010 and the peak black value collecting operation is done (col. 8 line 56-col. 9 line 26) and therefore reads on a third signal output from the non-image pixel portion during the period of acquiring image information.

Therefore taking the combined teachings of Nabeshima and Kawai, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to include offset component correction means in accordance with a first signal output from the effective pixel portion during a period other than the image information acquiring, a second signal output from the non-image pixel portion during the period other than the image information acquiring and a third signal output from the non-image pixel portion during the period of acquiring image information. The benefit of doing so would be to perform an image reading apparatus, which is capable of performing the offset correction in an efficient manner and with a simple structure. [Claim 3]

Nabeshima teaches in figure 6A disclose the charges from the plurality of areas being output separately to right and left directions.

[Claim 4]

Nabeshima teaches that the CCD has wide variations in characteristics due to a variation of components and the sensitivity variations (col. 7 lines 12-15).

[Claim 6]

Official Notice is taken of the fact that it is notoriously common wherein the first, second, and third signals are obtained through addition of signals of the areas and averaging. Therefore taking the combined teachings of Nabeshima, Kawai and Official Notice it would be obvious to one skilled in the art at the time of the invention to have been motivated to have first, second, and third signals being obtained through addition of signals of the areas and averaging in order to have the correction of the offset components for the entire frame.

[Claims 30 and 33]

These are method and stored program implementing the method claims corresponding to apparatus claim 1. Therefore, claims 30 and 33 has been analyzed and rejected as previously discussed with respect to claim 1.

[Claim 37]

Nabeshima teaches an image input apparatus (figure 1) comprising a photoelectric conversion unit (6) adapted to acquire image information of an object from a plurality of divided areas (figure 6a, element 51) and to output signals from each of a plurality of output units (52 and 53) corresponding to respective ones of the areas (col. 7 lines 1-11). The claim is broadly read as each of the areas including an effective pixel portion to be the signal level and a non-image pixel

portion to be the black level therefore all the areas will have plurality of effective pixels and a plurality of non-image pixels (col. 7 lines 43-48). Nabeshima also teaches a correcting unit (28) adapted to correct offset components contained in the signals output from each of the output units during a period of acquiring the image information (col. 11 lines 6-14, the offset components are corrected during a read operation which occurs when the image information is being acquired).

Nabeshima fails to teach explicitly that the offset components are corrected in accordance with a first signal output from the effective pixel portion during a period other than the image information acquiring, a second signal output from the non-image pixel portion during the period other than the image information acquiring and an average of the second signal.
However Kawai teaches a control unit 10 (figure 1) used for offset adjustment for an image reading circuit as shown in figure 4a and 4b (col. 6 lines 17-20). The lamp is turned OFF during step S103 (Col. 6 lines 30-33). Then in step S104, the image signal A (which is a image signal is read, col. 5 lines 2-4, col. 6 lines 35-38) and therefore reads on a first signal output from the effective pixel portion during a period other than the image information acquiring. In step 105, the mean black output sample is readout (col. 6 lines 38-40) and therefore reads on a second signal output from the non-image pixel portion during the period other than the image information acquiring. Kawai also discloses a mean (average) black output (col. 6 lines 39-40).

Therefore taking the combined teachings of Nabeshima and Kawai, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to include offset component correction means in accordance with a first signal output from the effective pixel portion during a period other than the image information acquiring, a second signal output

from the non-image pixel portion during the period other than the image information acquiring and average of the second signal. The benefit of doing so would be to perform an image reading apparatus, which is capable of performing the offset correction in an efficient manner and with a simple structure.

[Claims 38, 39, 41]

See claims 3, 4, and 6.

[Claims 43, 44]

These are method and stored program implementing the method claims corresponding to apparatus claim 37. Therefore, claims 43 and 44 has been analyzed and rejected as previously discussed with respect to claim 1.

Allowable Subject Matter

6. Claims 5, 9, 40 and 42 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: As for claims 5 and 40, the prior art does not fairly suggest or disclose wherein said correcting unit includes a subtracting unit adapted to subtract the offset components from the signals output from the plurality of areas of said photoelectric conversion unit during the period of acquiring the image information; a calculating unit adapted to calculate the fluctuation of the offset components in accordance with the second and third signals; and an adjusting unit adapted to adjust the offset components to be subtracted by said subtracting unit, in accordance with an output signal from said calculating unit.

7. Claims 9 and 42 are dependent upon claims 5 and 9 respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA
July 31, 2005

DAVID L. OMETZ
SUPERVISORY PATENT
EXAMINER